REMARKS

This application has been reviewed in light of the Office Action dated April 14, 2003. Claims 1-8 are now pending in the application. Claims 9-14 have been cancelled without prejudice pursuant to the restriction requirement. No new matter has been introduced or new issues raised that would require a new search.

By the Office Action, claims 1-8 were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 has been amended in a way believed to overcome this rejection. Reconsideration of the rejection is earnestly solicited.

By the Office Action, claims 1-2 and 7 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,495,205 (hereinafter Gibson et al.). The Applicant respectfully disagrees with the rejection.

Gibson et al. discloses a system and method, which utilizes an extrusion or other controlling delivery process to deliver a coating material upon a substrate surface as a uniform coating of a predetermined thickness. In Gibson, the extrusion head is moved relative to a fixed or stationary substrate and a buildup of coating material is caused by an extrusion delivery system, which has a linear or substantially linear relative motion with the substrate to achieve the desired thickness on a substrate.

Gibson uses a linearly moving extrusion head, which sweeps over the substrate to deposit a layer of resist material on a semiconductor wafer. Gibson makes great efforts to deposit the coating uniformly (linear extrusion process) and then only later releases the substrate from the chucks to

Received from < 516 883 3869 > at 6/4/03 12:19:10 PM [Eastern Daylight Time]

spin away excess material (still in liquid form). After depositing material over the substrate and the chuck, Gibson teaches that the chuck may be rotated with the substrate. The primary reason for spinning the chuck at all is for cleaning the chuck, not for preventing formation of a bead at the outer edge of the disc. (See col. 5, lines 27-46). Other cleaning methods also taught in Gibson include lowering the chuck into a pool of solvent or brushing (col. 10, lines 24-35).

In addition, the system in Gibson is completely different from the present invention in that the present invention provides for a method of "spin coating" whereby a quantity of liquid is dispensed from a nozzle onto a substrate, and the substrate and extension body are rotated. Because of the rotational speed, most of the coating liquid is driven off the surfaces of the substrate and extension body via the outer periphery leaving a relatively thin layer. Due to the surface tension of the liquid, a raised edge forms near the outer periphery of the extension body, not on the outer periphery of the substrate.

In stark contrast to the present invention, the method taught in Gibson, replaces spin coating and its drawbacks by providing a uniform coating thickness upon deposition (via a linear motion extrusion head with sprayers). In Gibson, spraying is the dominant process employed for achieving a uniform coating thickness as opposed to spinning, in the present disclosure.

The present invention includes, *inter alia*, a method of manufacturing a circular optical storage disc including … providing a coating on the first surface by applying a liquid, rotating the substrate, and solidifying the liquid; and wherein: when applying the liquid onto the first surface, the substrate is present in a separate extension body; the extension body having substantially circumferential contact with the periphery of the substrate; the extension body having a surface substantially flush with the first surface of the substrate; and after at least partial

solidification of the liquid, the extension body and the substrate are separated.

Claim 1 recites the extension body having substantially circumferential contact with the periphery of the substrate and having a surface substantially flush with the first surface of the substrate. Gibson does not teach or suggest this. In fact FIG. 8 of Gibson shows a gap 830 between the periphery of the substrate 111 and the chuck 510. The chuck employs a vacuum to hold the substrate in Gibson.

Gibson describes this gap 830 for providing a positive pressure therein to prevent fluid flow at the periphery of the substrate (see col. 11, lines 27-50). The substrate 111 includes this clearance to permit the chuck 510 to move away from substrate 111 during processing for cleaning, etc. While Gibson attempts to prevent fluid from coating the outer surface of the substrate, nothing is done to prevent a raised edge from forming near the outer periphery of the substrate. In fact, due at least to the exposed peripheral edge of the substrate left open by gap 830, Gibson suffers from the exact problem being solved by the present invention.

It is apparent from FIG. 8 that the present invention does not teach or suggest the present invention as claimed. The substrate is not in substantially circumferential contact with the periphery of the substrate and having a surface substantially flush with the first surface of the substrate, as recited in claim 1. In fact, it is well known that holding semiconductor wafers on their periphery can cause damage or contamination to the substrate itself.

In addition, Gibson applies resist, which in order to process it further (exposure and patterning), requires removal of the wafer from the coating station. While some evaporation may occur, the resist cannot become solidified prior to patterning it. Therefore, the Examiner's contention that at least some solidification occurs is respectfully traversed.

In stark contrast, the present invention recites that after at least partial solidification of the liquid, the extension body and the substrate are separated. This separation after solidification ensures that any edge bead is removed from the optical disc. The optical disc coating of the present invention is not typically patterned and is not limited as in Gibson. On the contrary, beads formed on the periphery of the substrate in Gibson would suffer from surface tension effects due to any spinning of the substrate at least in part due to the gap 830 referenced earlier.

Therefore, the method taught in Gibson would of necessity form a bead at the periphery of the substrate. Column 10, lines 50-64 of Gibson further demonstrate that these various embodiments are for cleaning the chuck. See also col. 11, lines 57-65.

Gibson fails to disclose or suggest at least: 1) an extension body having substantially circumferential contact with the periphery of the substrate, the extension body having a surface substantially flush with the first surface of the substrate and 2) after at least partial solidification of the liquid, the extension body and the substrate are separated. Since Gibson fails to disclose or suggest all of the elements as set forth in claim 1, claim 1 is believed to be allowable over cited art. Gibson fails to teach or suggest the present invention as claimed. Reconsideration of the rejection is earnestly solicited. Claims 2 and 7 are believed to be allowable due at least to their dependency from claim 1 and for the reasons stated above.

By the Office Action, claims 3-6 are rejected under 35 U.S.C. §103(a) as being obvious over Gibson. The Applicant respectfully disagrees with the rejection.

While Gibson discloses chucks and substrates of irregular shape, Gibson fails to disclose the advantages of the present invention for polygonal shaped extension bodies/substrates (claim 3). In addition, the present invention achieves surprising results as a consequence of a polygonal

shape. See e.g., curve 52 of FIG. 3 of the present disclosure showing a reduced bead occurring at a larger radial distance from the center.

Gibson fails to disclose or suggest an extension body made of substantially the same material as the substrate as recited in claim 5 as mentioned by the Examiner. It is not clear how the semiconductor wafer of Gibson could be made workable by chucks made of semiconductor material (typically Silicon or GeAs). These semiconductor materials (of the wafer/substrate of Gibson) could no be realistically used for chucks, nor is there any suggestion in Gibson for doing so. It is therefore respectfully submitted that the Examiner's rational as to claim 5 is unsupported. Claims 3-6 are believed to be allowable due at least to their dependency from claim 1 and for the above stated reasons.

By the Office Action, claim 8 is rejected under 35 U.S.C. §103(a) as being obvious over Gibson in view of Scheu et al. (U.S. 4,024,835). The Applicant respectfully disagrees with the rejection.

Claim 8 is believed to be allowable due at least to its dependency from claim 1 and for the above stated reasons.

In view of the foregoing amendments and remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration of the case is respectfully requested.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicant's representatives Deposit Account No. 19-0513.

FAX RECEIVED
JUN 0 4 2003
GROUP 17..

Respectfully submitted,

By: ______________ 6/4/03
James J. Bitetto
Reg. No. 40,513

Correspondence Address:
Philips Electronics North America Corporation
580 White Plain Road
Tarrytown, NY 10591

MARKED-UP VERSION FOR THE CLAIMS

Please amend Claim 1 as follows:

1. (Thrice amended) A method of manufacturing a circular optical storage disc, comprising:

providing a substrate with a first surface and a periphery;

providing a coating on the first surface by applying a liquid, rotating the substrate, and solidifying the liquid; and wherein:

when applying the liquid onto the first surface, the substrate is present in a separate extension body;

the extension body having substantially circumferential contact with the periphery of the substrate[,wherein said substantially circumferential contact limits fluid flow therebetween to at most capillary flow];

the extension body having a surface substantially flush with the first surface of the substrate; and

after at least partial solidification of the liquid, the extension body and the substrate are separated.

Received from < 516 883 3869 > at 6/4/03 12:19:10 PM [Eastern Daylight Time]